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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/559,073 04/27/00 MURAKAMI

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EXAMINER

IM52/0808

OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON VA 22202

VANDY, T	
ART UNIT	PAPER NUMBER

1754
DATE MAILED:

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09-559,073

Applicant(s)

MURAKAMI ET AL.

Examiner

VANOY

Group Art Unit

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—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-16 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-16 is/are rejected.
- ☒ Claim(s) 4, 5, 13 AND 14 is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☒ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).
- *Certified copies not received: _____.

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4 AND 5
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

- ✓ a) The abstract is objected to because it does not mention the role the carbonaceous material has in making the electric double layer capacitor set forth in the claims.
- ✓ b) The use of the **possible** trademark "Ketchen black" on pg. 25 ln. 22 and pg. 30 Ins. 22 and 23 has been noted in this application. If "ketchen black" is a trademark, then it should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

- ✓ a) In claims 4, 5, 13 and 14, it is not clear if the Applicants intended to recite -- weight percent-- in lieu of the mass percent.

Claim Rejections - 35 USC § 112

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 5, 10, 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as their invention.

- ✓ a) In claims 4, 5, 13 and 14, it is not clear if the Applicants intended to recite -- weight percent-- in lieu of the mass percent.
- ✓ b) Claim 10 does not particularly point out and distinctly set forth the metes and bounds of the vague term "sulfolane derivative".

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

AL Claims 8-16 are rejected under the judicially created doctrine of obviousness-

type double patenting as being unpatentable over claims 1-19 of U.S. Patent No.

6,038,123 to Shimodaira et al. Although the conflicting claims are not identical, they are

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not patentably distinct from each other because the claims of 09-559,073 and U. S. Pat. 6,038,123 disclose obvious variations of what appears to be the same electric double layer capacitor characterized by overlapping surface areas (please compare the surface area limitations of 1,000 to 2,500 m²/g set forth in claims 8 and 16 in 09-559,073 to the surface area limitations of 500 to 1,500 m²/g set forth in claim 4 in U. S. Pat. 6,038,123); characterized by the same carbonization and activation of the carbonaceous material precursor materials (please compare the carbonizing and activating steps in claim 11 in 09-559,073 to the carbonizing and activating steps in claim 3 in U. S. Pat. 6,038,123); characterized by containing the same solutes/solvents (please compare the R¹R²R³R⁴ cation and BF₄⁻ anion in claim 10 in 09-559,073 to the R¹R²R³R⁴BF₄ in claim 10 in U. S. Pat. 6,038,123).

The difference between the claims of 09-559,073 and U. S. Pat. 6,038,123 is the manner in which the electric double layer capacitor is described. For example, claim 1 in U. S. Pat. 6,038,123 describes the Raman spectra characteristics of the double layer capacitor whereas claim 8 in 09-559,073 describes the various pore volumes of the electric double layer capacitor, however it is submitted that these differences would have been obvious to one of ordinary skill in the art at the time the invention was made because it is expected to be within the skill level of the person having ordinary skill in the art to readily determine what the pore volumes; Raman spectra characteristics, etc. are of what appears to be at least an obvious variation of the same electric double layer capacitor.

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du b) Claims 8-16 are directed to an invention not patentably distinct from claims 1-19 of commonly assigned U. S. Pat. 6,038,123 for the reasons set forth in the obviousness-type double patenting rejection.

Commonly assigned U. S. Pat. 6,038,123, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee is required under 37 CFR 1.78(c) and 35 U.S.C. 132 to either show that the conflicting inventions were commonly owned at the time the invention in this application was made or to name the prior inventor of the conflicting subject matter. **Failure to comply with this requirement will result in a holding of abandonment of the application.**

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g).

Claim Rejections - 35 USC § 103

c) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person "having ordinary skill in the art" has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

lwy Claims 8-16 are rejected under 35 U.S.C. 103(a) as being obvious over U. S. Pat. 6,038,123 for the reasons set forth in the obviousness-type double patenting rejection.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art

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under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by:


(1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

 Claims 1, 2, 6, 7, 8, 11, 15 and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the English

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abstract of Japan Pat. App'n. No. 06-216,446 (i. e. reference no. "AY" in the Applicants' PTO-1449).

The English abstract of JP 06-216,446 discloses what appears to be at least an obvious variation of the same carbonaceous material (and method for making the same) and the same electric double layer capacitor (and method for making the same).

The carbonaceous material was prepared by:

- (i) curing a phenolic resin;
- (ii) grinding the cured product;
- (iii) carbonizing the ground, cured product via thermal treatment in a nitrogen atmosphere, and

- (iv) activating the carbonized product in an atmosphere of carbon dioxide to (evidently) obtain the carbonaceous material (please see the English abstract of JP 06-216,446, under the first two sentences under the "Constitution" paragraph header), in a manner that at least renders obvious the limitations of Applicants' claims 1, 2, 6 and 7.

This activated carbonaceous material is mixed with other ingredients to include the binder of Applicants' claim 11 and worked up to (evidently) form the capacitor (please see the English abstract of JP 06-216,446, the last three sentences under the "Constitution" paragraph header), in a manner that at least renders obvious the limitations of Applicants' claims 8, 11, 15 and 16.

The difference between the Applicants' claims and the English abstract of JP 06-216,446 is that the Applicants' claims 1, 7, 8 and 16 describe the pore volume characteristics of the carbonaceous material and Applicants' claims 2 and 11 describe

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temperature; viscosity and mass reduction limitations used in the process for making the carbonaceous material, however it is submitted that these differences would have been obvious to one of ordinary skill in the art at the time the invention was made *because* it is submitted to be within the skill level of the person having ordinary skill in the art *to readily determine* which process parameters (i. e. the claimed temperature limitations, etc.) should be used from the general conditions that JP 06-216,446 uses to make their carbonaceous material *and to also describe* the chemical and physical properties of what appears to be the same carbonaceous material. Since no actual difference is seen or has been shown between the actual temperatures used; the actual pore volume characteristics of the product carbonaceous material, etc., these claims are rejected under 35 USC 102 – as well as 35 USC 103.

Claims 1-8 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the English abstract of JP 06-216,446 in view of JP 5-243,092 A and JP 2-297,915 A.

Claims 1, 2, 6, 7, 8, 11, 15 and 16 are rejected as being obvious from the English abstract of JP 06-216,446, as described in the previous rejection.

The differences between the Applicants' claims and JP 06-216,446 is that Applicants' claims 3, 4, 5, 12, 13 and 14 call for the use of curing agents and curing accelerators to be used during the curing of the resin.

The English abstract of JP 2-297,915 A is drawn to the same art of making electric double layer capacitors and discloses the use of a curing agent during the

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curing of the phenol resin. The English abstract of JP 5-243,092 A is also drawn to the same art of making electrolytic capacitors and discloses the use of salicylic acid as an agent which shortens the aging time of components used in the manufacture of electrolytic capacitors.

It would have been obvious to one of ordinary skill in the art at the time the invention was made *to modify* the process of making the carbonaceous material disclosed in the English abstract of JP 06-216,446 *by including* the curing agents and/or curing accelerators disclosed in the English abstracts of JP 2-297,915 A and JP 5-243,092 A in the claimed amounts during the curing step, in the manner called for in at least Applicants' claims 3, 4, 5, 12, 13 and 14, *because* the disclosures set forth in the English abstracts of JP 2-297,915 A and JP 5-243,092 A is evidence that it is conventional and the status quo to use such curing agents and curing accelerators in the manufacture of capacitors. It is obvious to do what is routinely done in the art.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the English abstract of JP 06-216,446 in view of JP 2-297,915 A and JP 5-243,092 A, as applied to claims 1-8 and 11-16 above, and further in view of U. S. Pat. 5,754,393 to Hiratsuka et al.

The difference between the Applicants' claims and JP 06-216,446 is that Applicants' claims 9 and 10 call for the presence of an organic electrolytic solution comprising a solvent, such as sulfolane, sulfolane derivatives, etc., and a quaternary onium salt in the capacitor.

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Col. 2 ln. 8 to col. 3 ln. 10 in U. S. Pat. 5,754,393 discloses a capacitor containing an electrolyte which comprises a solvent (such as sulfolane and its derivatives: please also see col. 2 lns. 35-34) and a quaternary onium salt (please see col. 2 lns. 62 to col. 3 ln. 10). From the description of the prior art set forth in col. 1 lns. 9 et seq., it appears conventional to use such electrolytic salts and solvents in the art of manufacturing capacitors, and the particular solvents and salts set forth in the Applicants' claims appear to also be conventional in the art (please note col. 1 lns. 35-42 and col. 2 ln. 63 to col. 3 ln. 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made *to recite* that the electric double layer capacitor disclosed in the English abstract of JP 6-216,446 contains an electrolyte (to include the solvent and electrolytic salts of Applicants' claims 9 and 10) *because* the description of the prior art set forth in col. 1 lns. 9 et seq. in U. S. Pat. 5,754,393 is evidence that the presence of such electrolytes in electric double layer capacitors is conventional and the state of the art for the taught advantage of increasing the working voltage, etc., as set forth in at least col. 1 lns. 16-19 in U. S. Pat. 5,754,393.

U. S. Pat. 6,241,956 B1 disclosing a method for making carbon is made of record.

Any inquiry concerning this communication should be directed to Timothy C.

Vanoy at telephone number 703-308-2540.

Timothy Vanoy/tv


Timothy Vanoy

Aug. 7, 2001

Patent Examiner

Application/Control Number: 09/559,073

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